

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JIANN H. CHEN, JOSEPH A. PAVLISKO, CHARLES C. ANDERSON,
and ROBERT A. LANCASTER

Appeal No. 2003-1989
Application No. 09/608,818

ON BRIEF

MAILED

FEB 26 2004

PAT & TM OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Before KIMLIN, PAK, and JEFFREY T. SMITH, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1 through 22, which are all the claims pending in the above-identified application.

According to appellants (Brief, page 3), "[a]ll of the pending claims, 1-22, stand or fall together." Therefore, for purposes of this appeal, we select claim 1 from all the claims on appeal and determine the propriety of the examiner's rejections

Appeal No. 2003-1989
Application No. 09/608,818

based on this claim alone consistent with 37 CFR § 1.192(c)(7) (2003). Claim 1 is provided below:

1. A method of making a fuser member having a support comprising the steps of:

A) providing a support;

B) coating a coating composition contained in an organic solvent onto the support, thereby forming a layer of the coating composition on said support, said coating composition comprising a fluorocarbon thermoplastic random copolymer, a curing agent having a bisphenol residue, a particulate filler containing zinc oxide, antimony-doped tin oxide particles, and an aminosiloxane, the fluorocarbon thermoplastic random copolymer having subunits of:

$-(\text{CH}_2\text{CF}_2)_x-$, $-(\text{CF}_2\text{CF}(\text{CF}_3))_y-$, and $-(\text{CF}_2\text{CF}_2)_z-$,

wherein

x is from 1 to 50 or 60 to 80 mole percent,

y is from 10 to 90 mole percent,

z is from 10 to 90 mole percent,

x+y+z equals 100 mole percent; and

C) curing said layer of the coating composition on said support for 5 to 10 hours at a temperature in the range of 25°C to 120°C.

The references relied upon by the examiner are:

Lentz	4,257,699	Mar. 24, 1981
Hartley et al. (Hartley)	4,853,737	Aug. 1, 1989
Blong et al. (Blong)	5,549,948	Aug. 27, 1996
Schlueter, Jr. et al. (Schlueter)	5,995,796	Nov. 30, 1999

Appeal No. 2003-1989
Application No. 09/608,818

The references relied upon by the appellants are:

Eddy et al. (Eddy)	5,017,432	May 21, 1991
Effenberger et al. (Effenberger)	5,194,335	Mar. 16, 1993
Shifman et al. (Shifman)	6,203,873	Mar. 20, 2001

Hull et al., Scheirs, "THV Fluoroplastic," *Modern Fluoropolymers*, unknown page numbers, (John Wiley & Sons Ltd., 1997) (hereinafter referred to as pages 13-1 and 13-2) (The appellants refer to it as "Attachment C").

efunda, *Polymer Material Properties*, pp. 1-2, (Oct. 10, 2002) <http://www.efunda.com/materials/polymers/properties/polymer_data_sheet.cfm?MajorID=FP&MinorID=15> (The appellants refer to it as "Attachment D").

PSP Inc. Brochure, *Comparison of Dupont Dow Viton® Fluoroelastomers*, pp. 1-2 (unknown publication date) (The appellants refer to it as "Attachment B").

Unknown author, "Fluorocarbon Elastomers," *Encyclopedia of Chemical Technology*, p. 990 (4th Ed., Vol. 8, unknown publication date) (The appellants refer to it as "Attachment A").

The references relied upon by the Board are:

Kirk-Othmer, "Elastomers, Polyisoprene to Expert Systems," *Encyclopedia of Chemical Technology*, pp. 16-20, 22-25 (4th Ed., Vol. 9, John Wiley & Sons, 1994) (hereinafter referred to as "Kirk").

Lewis, *Hawley's Condensed Chemical Dictionary*, pp. 437, 1097 (13th Ed., Van Nostrand Reinhold Publ., 1997) (hereinafter referred to as "Lewis").

Claims 1 through 20 stand rejected under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Hartly, Lentz and

Appeal No. 2003-1989
Application No. 09/608,818

Schlueter. Claims 1 through 22 stand rejected under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Hartly, Schlueter and Blong.

We have carefully reviewed the claims, specification, and applied prior art references, including all of the arguments and evidence advanced by both the examiner and the appellants in support of their respective positions. This review leads us to conclude that the examiner's Section 103 rejections are well founded. Accordingly, we will sustain the examiner's Section 103 rejections for the reasons set forth in the Answer and below.

As evidence of unpatentability of the subject matter defined by claim 1, the examiner relies on the disclosure of Hartly.

According to the examiner (Answer, pages 4-5), Hartly teaches

a method of making a fuser member having a support comprising the steps of providing a support (See column 8, lines 9-12); coating onto the support an organic solvent-based coating composition (See column 8, lines 4-6) comprising a fluoroelastomer, a curing agent having a bisphenol residue (See column 3, lines 5-11), a particulate filler containing a combination of (See column 6, lines 51-52) metal oxides such as zinc oxide, antimony oxide, tin oxide (See column 6, lines 42-53) and aminosiloxane (See column 2, lines 48-50; column 5, lines 27-46), the fluoroelastomer being terpolymers of vinylidene

fluoride with hexafluoropropylene and tetrafluoroethylene such as commercially available Viton B (See column 3, lines 1-3); gradually raising the temperature of the coating composition from 20°C to 230°C for 12-24 hours and then curing at that temperature for 24 hours (See column 8, lines 26-33).

The appellants have not disputed this examiner's findings.

Compare the Answer, pages 4-5, with the Brief and the Reply Brief in their entirety. Nor have the appellants disputed the examiner's finding (Answer, page 5) that

[i]t is well known in the art that commercially available Viton B is [sic] contains claimed subunits in an amount within claimed ranges, namely, $x=61\%$, $y=17\%$ and $z=22\%$. . .

However, the appellants argue that Viton® B is a fluoroelastomer, not a thermoplastic. See the Brief, pages 3-8. It appears to be the appellants' position that the term "thermoplastic" in claim 1 excludes the elastomer described in Hartly. *Id.* We do not agree.

It is well known in the art that elastomers, including fluoroelastomers, include both thermosetting and thermoplastic polymers. See Lewis and Kirk in entirety, especially page 25 of Kirk. Thus, it is reasonable to conclude that the elastomers, such as Viton® B, described in Hartly are embraced by the claimed fluorocarbon *thermoplastic* polymer because Viton® B, for example, is an uncured (not crosslinked) elastomer having vinylidene

fluoride, hexafluoropropylene and tetrafluoroethylene in proportions corresponding to those in the claimed fluorocarbon thermoplastic polymer. Viton® B is cured (crosslinked) after being coated onto a support as required by claim 1.

The appellants rely on Eddy, Effenberger, Shifman and Attachments A, B, C, and D to show that elastomers and/or Viton® B are distinct from thermoplastic polymers. See the Brief, pages 3-8. However, none of the literature evidence relied upon contradicts the teachings of Lewis and Kirk that elastomers encompass both thermosetting and thermoplastic polymers.

The appellants, for example, indicate that Eddy¹ teaches that Viton® B is an elastomer having the claimed proportions of vinylidene fluoride, hexafluoropropylene and tetrafluoroethylene. See the Brief, page 5. Attachment B defines Viton® B as follows (pages 1 and 2):

Viton® B is a grade of fluoroelastomer terpolymers, that is they are polymerized from three monomers, vinylidene (VF2), hexafluoropropylene (HFP), and tetrafluoroethylene (TFE). Viton® B fluoroelastomers offer better fluid resistance than A type

¹ In the event of further prosecution of this application, the examiner is to determine whether Eddy alone or in combination with Blong affects the patentability of the claimed subject matter.

fluoroelastomer. There is a full range of Viton® B grades that accommodate a variety of manufacturing processes including injection and compression molding, extrusion, and calendering.

Nowhere in Attachment B and Eddy is it indicated that Viton® B is not a thermoplastic polymer.

Attachments C and D state that THV fluorothermoplastic has a property somewhat different from that of Viton® B, but do not indicate that Viton® B is not a thermoplastic polymer.

Similarly, Attachment A states that elastomers include cross-linked polymers (thermosetting polymers); however, it does not indicate that elastomers do not include thermoplastic polymers.

Effenberger defines "elastomers" and "thermoplastics" in the specification to impart meanings different from what are commonly accepted in the art. However, there are no teachings in Effenberger which indicate that the commonly accepted meaning of "elastomers" does not encompass thermoplastic polymers. Nor are there any teachings in Effenberger that Viton® B (elastomer) is not a thermoplastic polymer.

Although Shifman discloses a first fluorointerpolymer having elastomer characteristics and a second fluorointerpolymer having thermoplastic characteristics, it does not indicate that elastomers do not embrace thermoplastic polymers. The language

in question in Shifman can be seen as defining fluorointerpolymers of differing scopes as the term "elastomers" includes both thermosetting and thermoplastic polymers. Shifman also does not indicate that Viton® B (elastomer) is not a thermoplastic polymer.

The appellants argue that Hartly does not teach curing its fluoroelastomer "for 5 to 10 hours at a temperature in the range of 25°C to 120°C" as required by claim 1. See the Reply Brief, pages 4 and 5. However, we find that Hartly teaches (column 8, lines 28-33) that

[t]he curing treatment can be carried out in stages, for example, an initial state where the temperature of the composition is ramped (gradually raised) from about 20° C. to about 230° C. over a period of about 12 to 24 hours and then cured at that temperature or slightly higher, e.g., 232° C. for about 24 hours.

As the curing treatment of Hartly includes the claimed curing conditions and the claims on appeal do not preclude an additional heat treatment at a higher temperature², such as the one

² By virtue of using the transitional term "comprising," the appellants permit the inclusion of steps which are not recited in the claims on appeal. See *In re Baxter*, 656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981).

Appeal No. 2003-1989
Application No. 09/608,818

described in Hartly, we find that the claimed heat curing condition does not patentably distinguish from that described in Hartly.

In view of the forgoing, we concur with the examiner's determination that Hartly alone would have suggested the subject matter defined in claim 1 within the meaning of 35 U.S.C. § 103. Hence, we affirm the examiner's decision rejecting the appealed claims under 35 U.S.C. § 103. However, pursuant to 37 CFR § 1.196(b) (2002), we denominate our affirmance as including new grounds of rejection since our decision relies on Lewis and Kirk for the first time in the prosecution of this application.

This decision contains new grounds of rejection pursuant to 37 CFR § 1.196(b). 37 CFR § 1.196(b) provides that “[a] new ground of rejection shall not be considered final for purposes of judicial review.”

37 CFR § 1.196(b) also provides that the appellants, *WITHIN TWO MONTHS FROM THE DATE OF THE DECISION*, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

Appeal No. 2003-1989
Application No. 09/608,818

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED - 37 CFR § 1.196(b)

Edward C. Kimlin

EDWARD C. KIMLIN)
Administrative Patent Judge)

Chung K. Pak

CHUNG K. PAK)
Administrative Patent Judge)

Jeffrey T. Smith

JEFFREY T. SMITH)
Administrative Patent Judge)

)
BOARD OF PATENT
APPEALS AND
INTERFERENCES

CKP/hh

Appeal No. 2003-1989
Application No. 09/608,818

*LAWRENCE P. KESSLER
NEXPRESS SOLUTIONS, LLC
1447 ST. PAUL ST.
ROCHESTER, NY 14653-7001*